WACHOVIA

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HP | Success Story | Enterprise Computing

Wachovia Bank Consolidates its Back-Office with HP

" Our IT Infrastructure server consolidation with HP's K-Class HyperPlex cluster solution has already saved us substantial administrative costs."

Richard Mattox
Senior Vice President
Technical Services
Wachovia Operational Services Corporation

As one of the twenty largest bank holding companies in the United States, Wachovia Corporation adroitly utilizes technology to better serve its customers. Having dual headquarters in Winston-Salem, NC and Atlanta, GA, the bank serves southeastern, national and international markets.

Throughout its 100-year history, Wachovia has produced long-term profitable growth while adapting to change and maintaining its core philosophy of operating in a sound and prudent manner. With a growing, distributed, heterogeneous IT infrastructure Wachovia turned to Hewlett-Packard Company for consolidation solutions.

www.wachovia.com

WACHOVIA

At-a-Glance:

Name: Wachovia Bank

Headquarters: Winston-Salem, NC and Atlanta, GA

Founded: 1879

Employees: 20,900

Total Assets: $67 Billion

Telephone: 336 773 2000

URL: www.wachovia.com

Wachovia Corporation has been serving the financial needs of individuals, communities, and businesses within the Southeast for over 100 years. They also provide a broad range of corporate services on a global scale.

Challenges

- Reduce costly administrative overhead of managing over 200 heterogeneous servers throughout the company
- Improve service levels by removing infrastructure complexity

Solutions

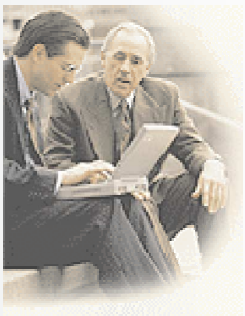
- Consolidate servers into a flexible, scalable HP 9000 K-Class HyperPlex Data Center Cluster environment
- Maintain mission-critical high availability with MC/ServiceGuard and HP OpenView
- Swift implementation using HP Consulting

Results

- Meeting service level expectancies with automatic, seamless fail-over recovery from HP K-Class HyperPlex cluster
- Immediate soft-cost savings in personnel man-hours

Technology Highlights

- HP HyperPlex data center cluster of 4 HP 9000 K570 Enterprise Server nodes running core applications
- HP MC/ServiceGuard for high availability
- HP 9000 D-Class Enterprise Server running HP OpenView Network Node Manager and IT Operations
- EMC Symmetrix Disk Arrays connected via Fiber Channel
- HP Consulting services for planning, implementation and education



Consolidating Options

With a distributed heterogeneous environment of over 200 servers spread throughout the bank, running a variety operating systems such as HP-UX, IBM AIX, Novell NetWare, and Microsoft ® NT, it became obvious that server consolidation was necessary to achieve higher availability and improved problem resolution.

"Our IT infrastructure had started to pose a considerable number of challenges. It's extremely difficult and time consuming to monitor and manage a couple of hundred servers. The overhead of administration, software maintenance, hardware and software upgrades on all of the different platforms is costly," explained Richard Mattox, Senior Vice President of Wachovia's Technical Services Organization.

He continued, "Our primary concern was availability. We were finding our service levels being compromised by the complexity of our heterogeneous environment it was another pointer towards the need to consolidate our systems."

Banking on a Trusted Advisor

Wachovia wanted to stop the proliferation of servers and put in place a goal to reduce hardware, software, and operations expenses thereby creating a more manageable IT environment. The bank decided to halt the purchase of further standalone servers and turned to Hewlett-Packard for consolidation solutions.

"As an existing technology resource of ours, it was natural for us to turn to HP. When we asked to look in-depth at HP's server roadmap, including new architectures and design, HP was willing to share detailed information to help us make the right business decision. We really value this level of relationship," said Mattox.

Continuing he noted, "We discovered HP's HyperPlex data center cluster solutions provide centrally managed, high-capacity enterprise platforms that can easily accommodate very large server consolidation and mission-critical high availability." The HP HyperPlex cluster technology encompasses a complete suite of HP-UX-based central system software to increase the ease of administration, lower IT costs and increase user productivity.

Getting "Bang" for the Buck

HP recommended and helped Wachovia implement an HP HyperPlex data center cluster with four HP 9000 K570 server nodes and a D-Class server for systems administration and management. "We were impressed with the power of this cluster - one of the nodes alone now processes the work of five former systems," said Mattox.

Systems administration also has been centralized through the use of the HP 9000 D-Class server running HP OpenView Network Node Manager and IT Operations. Mattox commented, "We felt a single point of administration made sense for us and our line of business."

Wachovia is using EMC for as the primary direct access storage device (DASD) and the server connections are via fiber channel. Mattox explained, "Within our storage environment we had heterogeneous servers connected to the same DASD. We had plenty of storage capacity already, so we now have connected the HP 9000 K-Class HyperPlex cluster into our storage network permitting the EMC-DASD to be used to its fullest capacity."

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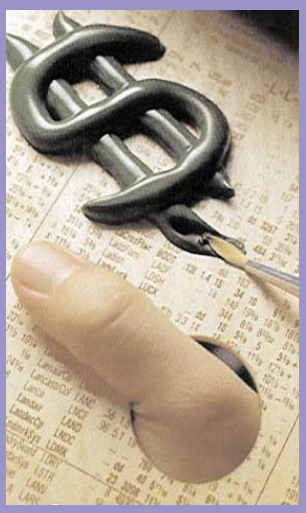

Wachovia recently deployed its new in-house performance measurement application onto the HP 9000 K-Class server. "This is a business critical application, so we wanted to be able to provide automatic production server failover to an alternate system - the cluster together with HP's MC/ServiceGuard software provides just that," noted Mattox.

Checking in with the Experts

Wachovia brought in HP Consulting Services as part of the implementation team for the consolidation to the HP data center cluster. "The project management team working within HP was very capable and did a great job of coordinating input from different HP entities. We had HP involvement from the server division, product development, implementation consulting services and education organization," said Mattox.

He continued, "HP Consulting services were involved from the beginning with the development of project plans, and throughout the implementation helping to handle funding and purchasing issues. Everything was resolved in a timely manner. By using HP Consulting services we were able to shortcut many steps in the server consolidation process - they were a very beneficial component."

Counting the Savings

As expected, the overall consolidation has dramatically reduced administrative tasks for Wachovia's IT staff. Mattox noted, "The real savings are in soft costs for example, the administrative duties associated with people having to take care of five servers now reduced to one."

Though the consolidation is still in its early stages, testing has shown that server failover is quick and seamless, ensuring increased availability for system users. With many businesses, high availability is critical to operational success. For banks with customers relying on automated tellers, online banking services and more -- high availability is a given.

Mattox explained, "I feel that with HP's MC/ServiceGuard and the HP 9000 K-Class HyperPlex in place, Wachovia is assured of system uptime. Our users won't even recognize that their application server suffered an outage. We are now more than able to meet our service level expectancies."

Successful Investments

Phase 2 of Wachovia's consolidation includes continuing to transfer existing applications onto each of the cluster's nodes. Mattox noted, "As new applications go online, the bank will look to find them a home on the cluster, too. At that point we will truly begin off-setting expense because we won't have to buy a server per application."

He concluded, "Some servers may never go away. However, this is an on-going process for us. As a server reaches the need to be upgraded, it will be evaluated to see if it can be rolled into the HP cluster. Our consolidation program, with the help of HP, has already proven to be hugely successful and we look forward to reaping further operational cost savings as we continue with the roll-out."

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HP ENTERPRISE SYSTEMS AND SERVICES

Global Container Firm Redesigns It's IT Infrastructure with Hewlett Packard to Gain Competitive Edge and Become Y2K Compliant

How do you increase your competitive edge

when it appears your competition can match you step for step? Orient Overseas Container Line (OOCL), a global container transportation company providing customers with fully integrated, containerized transportation services, faced that very question.

The company's answer: Provide better customer service than the competition — and use technology solutions from Hewlett-Packard Company to do it.

OOCL has long believed that investing in information technology (IT) is vital for its employees to be customer-driven, to embrace innovation and to be empowered. So in 1993, after senior management realized that increased global competitiveness was a threat to the company's position as an industry leader, the company reviewed its enterprise system and began transforming existing mainframe programs into a total client/server environment.

The outcome—Integrated Regional Information Systems or IRIS-2, a customer-driven approach to business applications that are unparalleled in the industry.

"Being customer-focused is the main driver behind the current application," says Mike Mak. IRIS-2 is a suite of integrated applications comprising an enterprise-wide information system. When complete, IRIS-2 will consist of approximately eighteen applications, each supporting a coherent set of business processes. At present, IRIS-2 Phase 1, consisting of twelve integrated applications, has been implemented. These applications cover data management for vessel schedules, vendor costs, company assets, route specifications, OOCL customer relationships — including customized agreements — and shipment and booking documentation. Installation of six remaining applications makes up Phase 2, after which the mainframe will be shut down.

The company's goal is to provide premier end-to-end cargo delivery service for its customers. To meet the goal OOCL needed to build a system that brought its front line staff efficiencies—tools that would help them make customer-based decisions better or faster based on the information they had.

By rewriting the enterprise application OOCL created an internal operational support system that maximizes efficiency. This was accomplished, in part, by integrating cross-functional processes. As a bonus, since the application runs on a client/server network, it eliminated the need for a mainframe system upgrade to resolve the company's Y2K problem.

"In the global transportation business, everybody's at par. Everybody is running the same kind of ship with the same sort of capacity. So the differentiator is to provide better customer service."

Mike Mak
director of Architecture and Product Delivery
Orient Overseas Container Line

Once OOCL decided to rewrite the enterprise applications, the company decided that object-oriented technology would best meet their needs, so they talked with different vendors and consulting firms.

"HP Consulting Services helped us with the enterprise application and began looking at the new technology available," says Mak. "The solutions HP provided enabled our operations and customer service people to be more responsive to our customers. We saw immediate benefits. Once we have all of our foundation applications laid down — by the end of 1999 — we will expand our potential applications to further increase our efficiencies."

Since IRIS-2 is a 32-bit application it can run on HP 11.0 UX and HP 10.X UX. "Our current applications require hefty reliance on powerful resources, however. In order to support the application, the number of users and run it on a wide area network environment, we need a powerful machine like the V-Class server. And HP 11.0 UX is a prerequisite for that machine," says Mak.

Challenge

- Maintain OOCL's leadership as a global transportation company through superior customer service
- Make appropriate Y2K preparations

Solutions

- Information technology to enable employees to be customer driven, to embrace innovation and to be empowered
- An enterprise application to produce internal operating efficiencies so that front line employees have the information they need to make customer driven decisions
- An enterprise-wide client/server network that eliminated the need for a mainframe system upgrade to resolve the Y2K problem

Benefits

- Customer service is immediately improved because employees can turn around solutions quicker
- More people can use the technology and the technology can handle more users
- Y2K problem is eliminated

The OOCL Server Environment

OOCL has three dedicated information technology development centers located in California, Manila and Hong Kong to develop the IRIS-2 application. The centers also support the client/server IT network, its company-wide Intranet, customer-accessible Internet and e-mail applications.

A variety of Hewlett-Packard servers are at work in OOCL's Hong Kong data center. Two V-Class servers run the IRIS-2 application that will replace the IBM mainframe. A T-Class server runs the company's data warehouse. Three K-Class servers run the company's SAP application for accounting. Additional K-Class servers run local platform applications based on Sybase and Power Builder.

OOCL's development center in San Jose runs three servers to support application development, two T-Class and one V-Class. The V-Class server is primarily used to test the application's performance, essentially stress testing it before the application rolls into production.

The San Jose office also has three K-Class servers. One is used for the source code repository, one supports the North American local platform that runs on Sybase and Power Builder and the third supports the decision support application development.

Belgium, Japan and Taiwan each have a K-Class server to run Sybase and Power Builder applications to support the front line operations.

Storage

In late 1998, OOCL began a data warehouse project using a T-Class server with Sybase. It extracts the day-to-day operational data from IRIS-2. Currently the data warehouse uses about 200 gigabytes, but the company expects the need to grow to one terabyte.

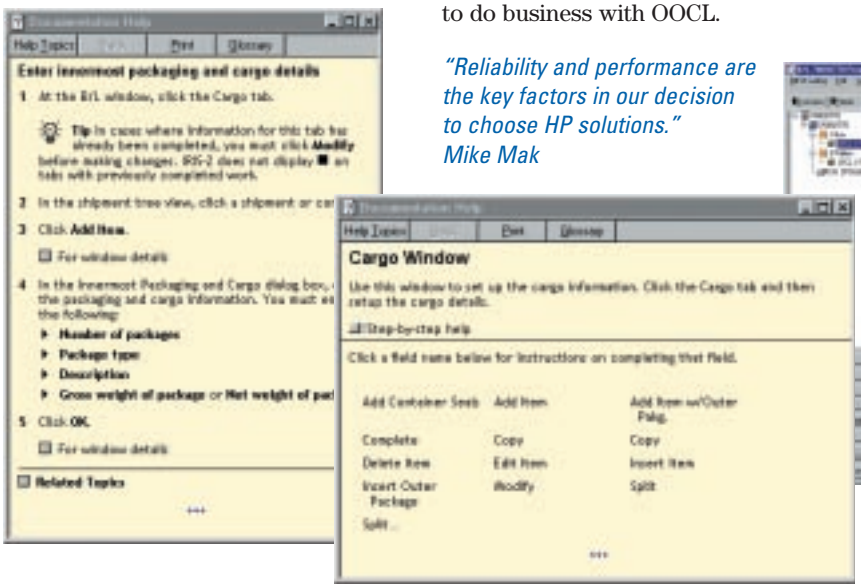
At the San Jose development center, OOCL has nearly 1.2 terabytes of data storage. Mak says, "In our production environment we have HP Symmetrix via fiber to a Model 30 Fiber Channel Disk Array." OOCL purchased the EMC disks through Hewlett-Packard after bench-marking trials because, says Allan Wong, product support manager at OOCL, "It dramatically improved the performance of the disk I/O."

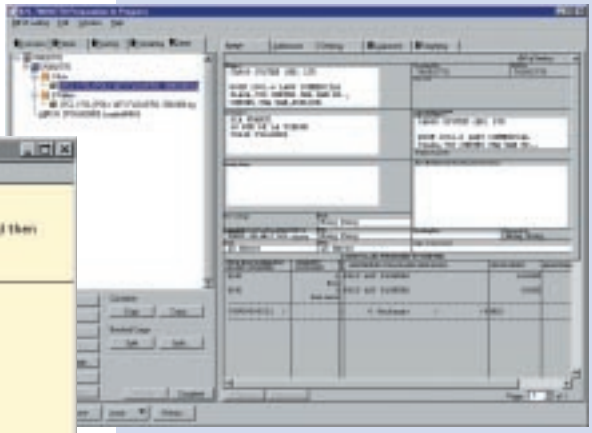
Conclusion

OOCL recognizes that in today's competitive environment superior customer service is a critical factor in the customer's choice of carrier. OOCL's "take it personally" attitude is an integral part of their culture. And since the company strives to be known as their customers' solutions provider, they make innovation their driving force.

Hewlett-Packard technology solutions help OOCL do just that. OOCL's investment in technology not only empowers their employees but makes it easier for their customers to do business with OOCL.

"Reliability and performance are the key factors in our decision to choose HP solutions."
Mike Mak





About OOCL

- Carries over 1.5 million TEUs (twenty-feet equivalent units) globally per year between 234 ports of call and 5,000 cities around the globe
- Over 3,400 employees worldwide
- A reputation for providing customer-driven solutions, a quality approach and innovation
- Complementary operations such as container service management, road haulage, supply chain management, freight forwarding and cargo consolidation
- One of the most modern fleets in the world
- Complete coverage of east-west shipping corridors linking North America, Europe, the Mediterranean, the Middle East and Asia
- The most comprehensive coverage of Intra-Asia trade and regular loops to Australia and New Zealand
- Pioneered transportation coverage of China
- An industry leader in information technology
- Introduced dedicated block trains from Northern Europe to Austria
- The only carrier in Canada to have dedicated transcontinental rail connections

"We saw immediate benefits with the HP platform — hardware and software. It increased our efficiency and availability."
Mike Mak

"Worldwide we're using HP equipment from the UNIX server, net server running NT, down to the desktop, laptop and printer. Everything basically."
Allan Wong
Technical Services and Production Support manager

"What we've created is a global village out of the IRIS-2 user community."
Lillian Christman
manager of User-Centered Design

"IRIS-2 is an enterprise application that uses object-oriented technology deployed over a wide area network supporting 3000 users globally."
Allan Wong

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